

**REMARKS**

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.116, and in light of the remarks which follow, are respectfully requested.

By the foregoing amendment, claims 1, 6 and 16 have been amended to recite that the lead content is "greater than 0 to about 1 ml tetraethyl lead/gallon of said reduced lead aviation gasoline composition" by including the features of dependent claims 21, 22 and 24, respectively. Claims 21-25 are therefore canceled. Claims 1-20 and 26-29 remain pending.

Entry of the foregoing amendments is requested in the interest of expediting the prosecution. Applicants note that these amendments simply add certain features directly dependent from each of claims 1, 6 and 16 to these independent claims. As such, no new issues requiring any further search and/or consideration are presented since these features were previously considered by the Examiner with respect to claims 21, 22 and 24.

Turning now to the Official Action, Claims 1-20 and 25-29 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by WO 9822556 (WO'556). Applicants respectfully submit that these rejections are obviated for at least the following reasons.

By the foregoing amendments, the features of claims 21, 22 and 24 have been added to claims 1, 6 and 16, respectively. Claims 21, 22 and 24 were not rejected under 35 U.S.C. §102(b) as being allegedly anticipated by WO 9822556 (WO'556). Accordingly, these rejections are no longer applicable to the present claims.

For at least the foregoing reasons, withdrawal of the rejections under 35 U.S.C. § 102(b) is requested.

Claims 21-24 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over WO 9822556 (WO'556). Applicants respectfully traverse these rejections for reasons noted in their previous reply, and for at least the following reasons.

WO'556 relates to an unleaded aviation fuel composition having a motor octane number of at least 98 comprising triptane and at least one other saturated aliphatic hydrocarbon having from 5 to 10 carbon atoms. The composition is stated to contain at least 30% by volume of the total composition of a hydrocarbon according to a specified formula, such as triptane or 2,2,3-trimethylpentane.

The aviation fuel composition of WO'556 is disclosed to be an unleaded fuel composition whereas Applicants' claims recite that the composition contains "reduced amounts of tetraethyl lead" in an amount of "greater than 0 to about 1 ml ml tetraethyl lead/gallon of said reduced lead aviation gasoline composition". WO'556 is completely silent with regard to the possible inclusion of a lead component, such as tetraethyl lead, and, in actuality, the presence of lead in such a composition would be contrary to its being an unleaded aviation fuel. It would be improper to attempt to modify an unleaded aviation fuel according to WO'556 by adding tetraethyl lead since an essential feature of WO'556 would be changed, i.e., the composition would no longer be lead free. See, e.g., *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) and MPEP 2143.01, ("If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification", 8th ed., p. 2100-124).

To the extent the Examiner may still consider the present claim language as allegedly "reading on impurities and negligible amounts as well as being close enough to 0 that the skilled artisan would expect that the present gasoline and an unleaded gasoline would have the same properties" (page 4 of the Detailed Action), Applicants respectfully submit that such statements do not form a proper basis for rejection of their claims.

In particular, a proper obviousness analysis in the present situation cannot simply be based upon whether or not one might expect the same properties for an unleaded gasoline according to WO'556 compared with a similar gasoline also containing lead. Rather, the analysis must first consider whether there is any motivation to add lead to such an unleaded

gasoline. However, there cannot be a proper reason to add lead to an unleaded gasoline since, as noted above, the resulting modified leaded gasoline would be unsatisfactory for its intended purpose as an unleaded aviation gasoline.

In addition, Applicants respectfully note that the assumption that the same properties would result if a small amount of lead were added to the unleaded gasoline of WO'556 is actually not correct. Clearly, the combustion of such a lead containing gasoline would result in lead emissions into the environment such that the "properties", considered as a whole, would not be the same.

Applicants also note that the key component in WO'556 is triptane (i.e., 2,2,3-trimethylbutane) or 2,2,3-trimethylpentane (see, e.g., formula (I) and the accompanying text describing component (a) at page 2). However, these components should not be confused as being a "light alkylate" according to Applicants' claims. Instead, as previously noted, both triptane and 2,2,3-trimethylpentane are not generally present in Avgas compositions (other than perhaps in very minor or trace amounts). Moreover, triptane is not typically produced by an alkylation process, or one which produces a light alkylate according to the present invention. For example, as shown in example 3 (page 7, especially lines 8-11) of WO'556, triptane is produced by a demethylation reaction process followed by redistillation to increase the triptane content. Triptane is therefore not a "light alkylate" according to Applicants' claims.

In the Official Action, it is nonetheless asserted that triptane and 2,2,3-trimethylpentane are "light alkylate components". For reasons noted above, and as follows, Applicants respectfully but strongly disagree with this assessment.

The possibility that 2,2,3-trimethylpentane may be an alkylate component is not a sufficient technical reason to conclude that triptane and 2,2,3-trimethylpentane are actually a "light alkylate" rather than simply individual chemical components having similar (or the same) numbers of carbon atoms. Clearly, a "light alkylate" is produced in an alkylation process (the name of this mixture of C<sub>6</sub> to C<sub>9</sub> isoparaffins obviously being derived from the process operation

itself). In contrast, triptane and 2,2,3-trimethylpentane are not produced by a "light alkylate" process such that they would not be considered to be "light alkylates" by one skilled in the art.

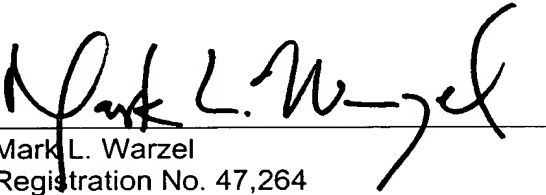
For at least the foregoing reasons, the claims are patentable over WO'556. Withdrawal of the rejections under 35 U.S.C. § 103(a) is requested.

Further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If any issues remain outstanding, or if the Examiner has any questions concerning the foregoing, a telephone call to the undersigned would be appreciated.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:   
Mark L. Warzel  
Registration No. 47,264

P.O. Box 1404  
Alexandria, VA 22313-1404  
(703) 836-6620

Date: April 21, 2003

RECEIVED

APR 23 2003

TC 1700

Application No. 09/942,913  
Attorney's Docket No. 005950-556



Attachment to Reply and Amendment filed April 21, 2003  
Marked-up Version of Claims 1, 6 and 16

---

1. (amended) An aviation gasoline composition possessing a high motor octane number and containing reduced amounts of tetraethyl lead comprising about 20 to about 80 vol% iso-octane, about 5 to about 18 vol% toluene, about 1 to about 20 vol% C<sub>4</sub> to C<sub>5</sub> paraffins, [about] greater than 0 to about 1 ml tetraethyl lead/gallon of said aviation gasoline composition and the balance comprising light alkylate.

6. (amended) A method of preparing an aviation gasoline composition possessing a high motor octane number and containing reduced amounts of tetraethyl lead comprising blending about 20 to about 80 vol% iso-octane, about 5 to about 18 vol% toluene, about 1 to about 20 vol% C<sub>4</sub> to C<sub>5</sub> paraffins, [about] greater than 0 to about 1 ml tetraethyl lead/gallon of said aviation gasoline composition and the balance comprising light alkylate.

16. (twice amended) A method of preparing a reduced lead content aviation gasoline composition while maintaining a high motor octane number comprising,  
blending an aviation gasoline composition with iso-octane, and, optionally, toluene,  
wherein, the reduced lead aviation gasoline composition comprises about 20 to about 80 vol% iso-octane, about 5 to about 18 vol% toluene, 1 to about 20 vol% C<sub>4</sub> to C<sub>5</sub> paraffins, [about] greater than 0 to about 1 ml tetraethyl lead/gallon of said reduced lead aviation gasoline composition and the balance comprising light alkylate.